Increasing Imports of Li-ion Batteries

Why in News

Union Minister for Science & Technology has given information about **imports of** lithium-ion (Li-ion) batteries in the country during the Budget session of 2020-21.

Key Points

- **Imports by Volume:**
    - India has **quadrupled its imports of lithium-ion (Li-ion) batteries.**
    - 175 million such batteries were imported in 2016, 313 million in 2017, 712 million in 2018 and 450 million in 2019.
- **Cost of Imports:**
    - It has **more than tripled its import bill** on the products vital for powering a range of devices from cellphones to electric vehicles from 2016-2018.
    - The cost of these imports rose from ₹2,600 crores in 2016 to ₹6,500 crores in 2019
- **Origin of Imports:**
    - India imports Li-ion batteries from **China, Japan and South Korea** and is among the **largest importers** in the world.
    - **China dominates** the Li-ion battery market. Around three-quarters of battery cell manufacturing capacity is in China, and Chinese companies have unparalleled control of required domestic and foreign battery raw materials and processing facilities.
- **Manufacturing by India:**
    - The Indian Space Research Organisation (ISRO) manufactures Li-ion batteries but **volumes are limited** and they are **restricted for use in space applications.**
- **Need to Increase Manufacturing by India:**
    - The government has announced investments worth $1.4 billion to make India one of the largest manufacturing hubs for electric vehicles by 2040.
    - **Electric vehicles** are expected to account for a significant share in the growth of the Li-ion battery demand in India till 2025.
- **Steps taken by India:**
    - The Central Electro Chemical Research Institute (CECRI) of CSIR and RAASI Solar Power Pvt Ltd had signed a Memorandum of Agreement **for transfer of technology for India's first lithium-ion (Li-ion) battery project in 2018.**
    - The Union Cabinet has also approved a **National Mission on Transformative Mobility and Battery Storage** to drive clean, connected, shared sustainable and holistic mobility initiatives.

Li-ion batteries

- A lithium-ion battery or Li-ion battery is a type of rechargeable battery.

- Li-ion batteries use an intercalated (Intercalation is the reversible inclusion or insertion of a molecule into materials with layered structures) lithium compound as one electrode material, compared to the metallic lithium used in a non-rechargeable lithium battery.
    - The battery consists of electrolyte, which allows for ionic movement, and the two electrodes are the constituent components of a lithium-ion battery cell.
    - Lithium ions move from the negative electrode to the positive electrode during discharge and back when charging.
- They are one of the most popular types of rechargeable batteries used for military, battery electric vehicle and aerospace applications.

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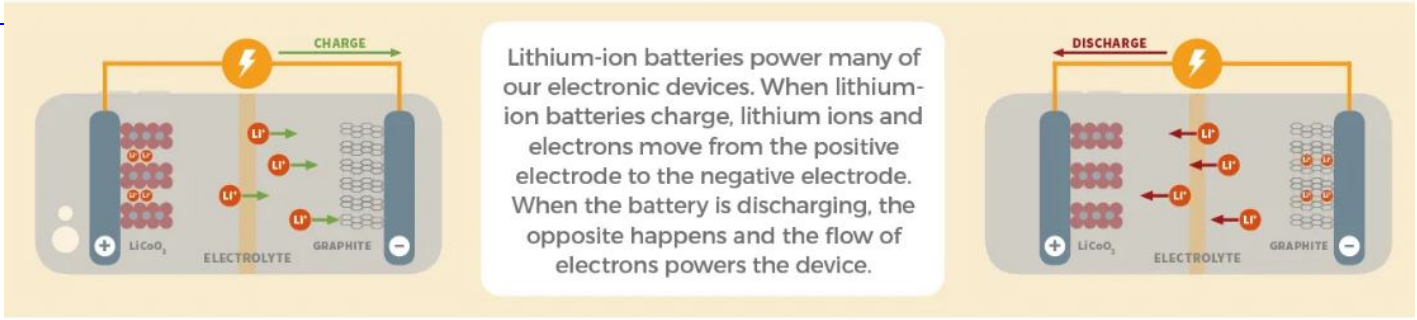

National Mission on Transformative Mobility and Battery Storage

- National Mission on Transformative Mobility and Battery Storage aims to promote clean, connected, shared, sustainable and holistic mobility initiatives.
- A Phased Manufacturing Program (PMP) will be launched to localize production across the entire EV value chain which will be valid for 5 years until 2024.
- The multi-disciplinary programme with an Inter-Ministerial Steering Committee will be chaired by CEO NITI Aayog.
- The details of the value addition that can be achieved with each phase of localization will be finalized by the Mission with a clear Make in India strategy for the electric vehicle components as well as battery.
- The Mission will coordinate with key stakeholders in Ministries/ Departments and the states to integrate various initiatives to transform mobility in India.

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